WORK PLAN FOR A SUBSURFACE INVESTIGATION OF PETROLEUM HYDROCARBONS IN SHALLOW SOILS

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1.0 INTRODUCTION

The scope of work presented in this work plan provides for further investigation of diesel fuel petroleum hydrocarbons in the shallow soils at the ITT facility located at 1200 South Flower Street, in Burbank and Glendale, California (Figure 1). Although a review of the chemical use history of the facility has failed to yield any evidence that diesel fuel was ever stored in bulk at the facility in either aboveground or underground tanks, diesel fuel has been discovered on the groundwater beneath the facility. Interstate Brands Corproation, which owns the property immediately to the northeast of the ITT site, has had a number of releases of diesel fuel that have resulted in a significant plume of diesel free-product on the groundwater. Previous investigations of the shallow soils at the ITT facility have demonstrated the presence of total recoverable petroleum hydrocarbons (TRPH), as measured by EPA Method 418.1, which does not allow identification of specific types of hydrocarbons.

Five areas at the facility have been selected for inclusion in this evaluation; each of these areas is either the former location of an underground tank or an area where previous work has yielded elevated EPA Method 418.1 results.

The planned scope of work consists of:

- Installation of 15 soil borings in 5 areas at the site;
- Collection of soil samples;
- Submittal of the soil samples to an analytical laboratory for analysis for diesel fuel petroleum hydrocarbons; and
- Preparation of a report that documents the field work, presents data collected during the investigation, and provides ENVIRON's analysis of data collected.

2.0 SITE SETTING AND BACKGROUND

2.1 Site Setting

The ITT facility is located in the San Fernando Valley along the border between the cities of Burbank and Glendale (Figure 1). The site is bounded on the south by Flower Street, on the east by Allen Avenue, and on the north by railroad tracks. Buildings and parking lots formally occupied most of the site, but many of the buildings have now been demolished (Figure 2).

The site lies at an elevation of approximately 510 feet above mean sea level. The surface of the site is generally flat, with a gentle slope toward the south. The Los Angeles River is located approximately 3/4 mile to the south; the Verdugo Mountains are located to the north and east.

2.2 Geology and Hydrogeology

The ITT facility is underlain by poorly sorted, unconsolidated alluvial fan sediments that originated in the Verdugo Mountains and Recent alluvium deposited by the Los Angeles River. The alluvium generally consists of coarse accumulations of sand, gravel, and boulders; fines occur in the interstices of the coarser sediments.

The ITT facility is located in the eastern portion of the San Fernando Hydrologic Subarea, which is generally characterized by coarse-grained sediments. Groundwater flow in the site vicinity is generally toward the Los Angeles River.

2.3 Previous Investigations

A number of investigations of subsurface conditions at the ITT site have been conducted in recent years; a listing of the reports prepared in association with those investigations is included in the Appendix. Many of the soil samples collected during the previous investigations were analyzed for petroleum hydrocarbons by EPA Method 418.1 and elevated TRPH concentrations were found in several areas. Although EPA Method 418.1 is not specific as to the type of petroleum hydrocarbons present, site-use history information has been interpreted to suggest that most, if not all, of the hydrocarbons detected are machine or cutting oils.

As a part of the groundwater investigation at the facility, eight monitoring wells have been installed. Although no onsite source of diesel fuel has been recognized to date, diesel free-product ranging in thickness from a few inches to a few feet has been discovered on the groundwater in both the perched and upper water bearing zones.

3.0 SITE INVESTIGATION ACTIVITIES

As indicated previously, the scope of work presented in this work plan has been designed to detect the possible presence of diesel fuel petroleum hydrocarbons in shallow soils in those areas of the facility judged to be the most likely to contain diesel if there are diesel fuel hydrocarbons present in the shallow soils at the ITT facility. To accomplish this investigation, 15 soil borings will be advanced in 5 selected areas at the site (Figure 3). The soil samples collected from the borings will be analyzed by EPA Method 8015M calibrated for diesel fuel. The scope of work outlined in this plan will be conducted under the supervision of a California Registered Geologist. The drilling and soil sampling methods and analytical testing procedures to be employed are summarized in the following sections.

3.1 Soil Boring Locations

Fifteen soil borings will be advanced at the approximate locations depicted in Figure 3. Three borings will be advanced in each of the area designated on the map as A, B, C, D, and E. Each "area" coincides with the approximate location of a former underground storage tank or tanks and/or within an area where elevated EPA Method 418.1 results were previously found.

3.2 Soil Boring and Sampling Procedures

Prior to initiation of drilling activities, the locations of any underground utilities will be confirmed by reviewing facility plans, when possible, and/or through use of an underground utility locator. In addition, where necessary, a concrete coring company will be retained to provide access to the underlying soils. Soil borings will be advanced using hollow stem auger drilling equipment. Borings will be logged visually in accordance with the Unified Soil Classification System.

One soil sample will be collected from each boring at depths of approximately ½ and 5 feet. Additional soil samples will be collected at a depth of approximately 20 feet from the soil borings in Areas A and C. Soil samples will be collected using a 2-foot long Sprague & Henwood split spoon sampler lined with a 6-inch-long brass sleeves. One sleeve will be immediately sealed with Teflon-lined plastic caps, labeled, placed in a Ziploc plastic bag, and stored on ice in a closed container. Soil contained within the second tube will be visually inspected and monitored for total volatile organic vapors using an organic vapor meter (OVM). All OVM readings will be recorded on the boring log. After sampling is completed, each boring will be backfilled with bentonite.

The soil samples collected will be transported to a state-certified laboratory under chain-of-custody protocols; custody forms will be relinquished upon delivery of samples to the laboratory.

3.3 Equipment Decontamination

All soil sampling equipment will be cleaned both prior to and after each use by washing with an Alconox/tap water solution and triple rinsing with distilled water. The drilling rig, augers, and associated equipment will be cleaned with a high-pressure hot water steam cleaner prior to and between use at each boring location.

3.4 Waste Containment

Waste soil produced during drilling and sampling operations will be placed in Department of Transportation (DOT)-approved 55-gallon drums. Drums will be sealed and labeled with the boring number(s), depth interval, and date. Decontamination rinse water will also be contained in 55-gallon drums, sealed, and labeled. Drums will be stored onsite pending appropriate disposal by ITT.

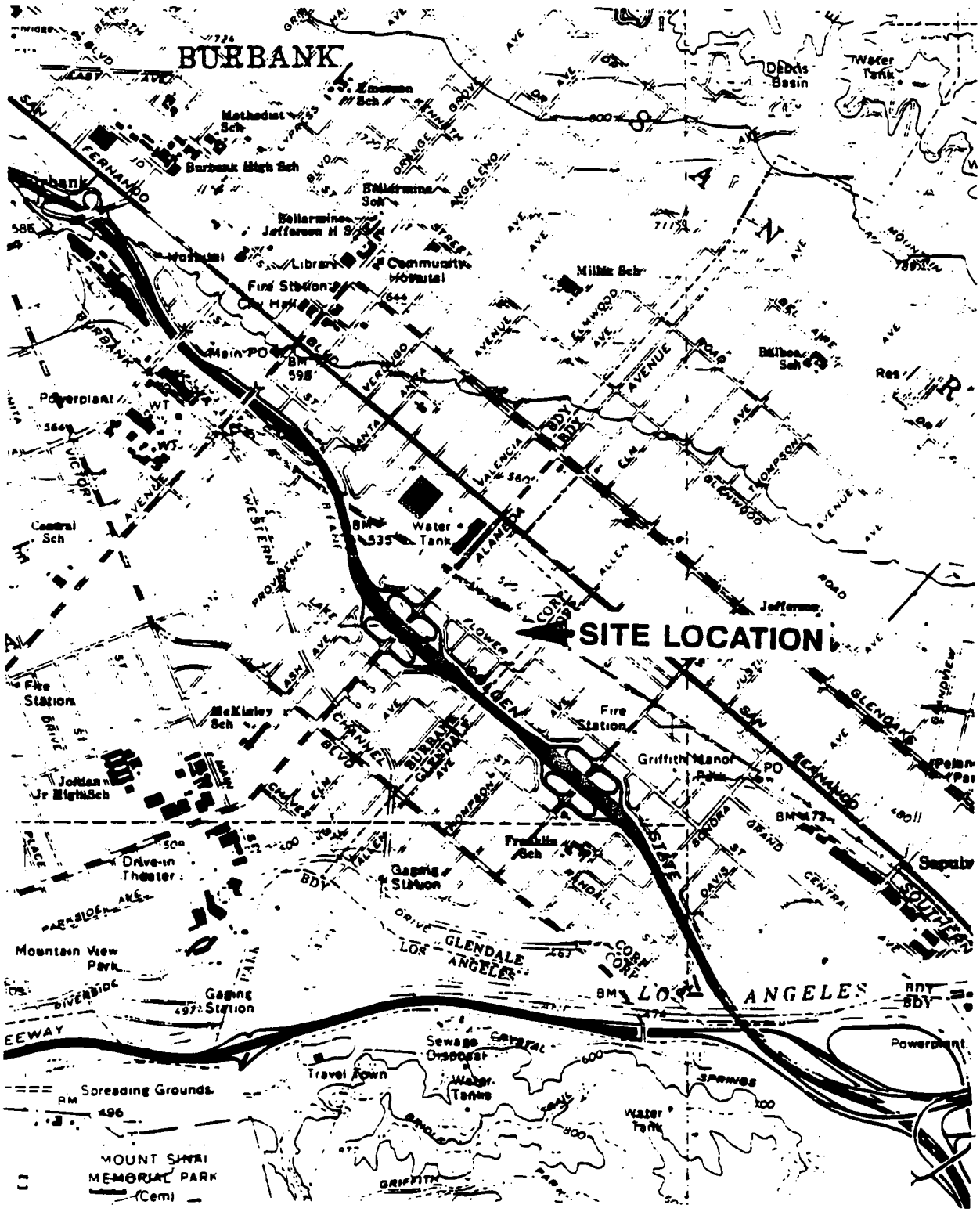
3.5 Analytical Procedures

All 33 soil samples will be delivered to a California-certified laboratory within 24 hours of collection. Soil samples will be analyzed in accordance with EPA Method 8015 Modified for diesel.

4.0 INVESTIGATION REPORT

At the close of the investigation, a report will be prepared to document the scope of work and present the results of the investigation. The report will include a description of the work conducted by ENVIRON during the investigation and will contain details of the field activities, analytical data, description of the analytical testing methodology, and QA/QC data. Report graphics will include boring logs and a site map that documents the boring locations. The laboratory reports will be included as an appendix. The report will be signed by a California Registered Geologist or Professional Engineer.

FIGURES



Site Location Map

ITT Fluid Products Corporation
Burbank, California

Figure 1

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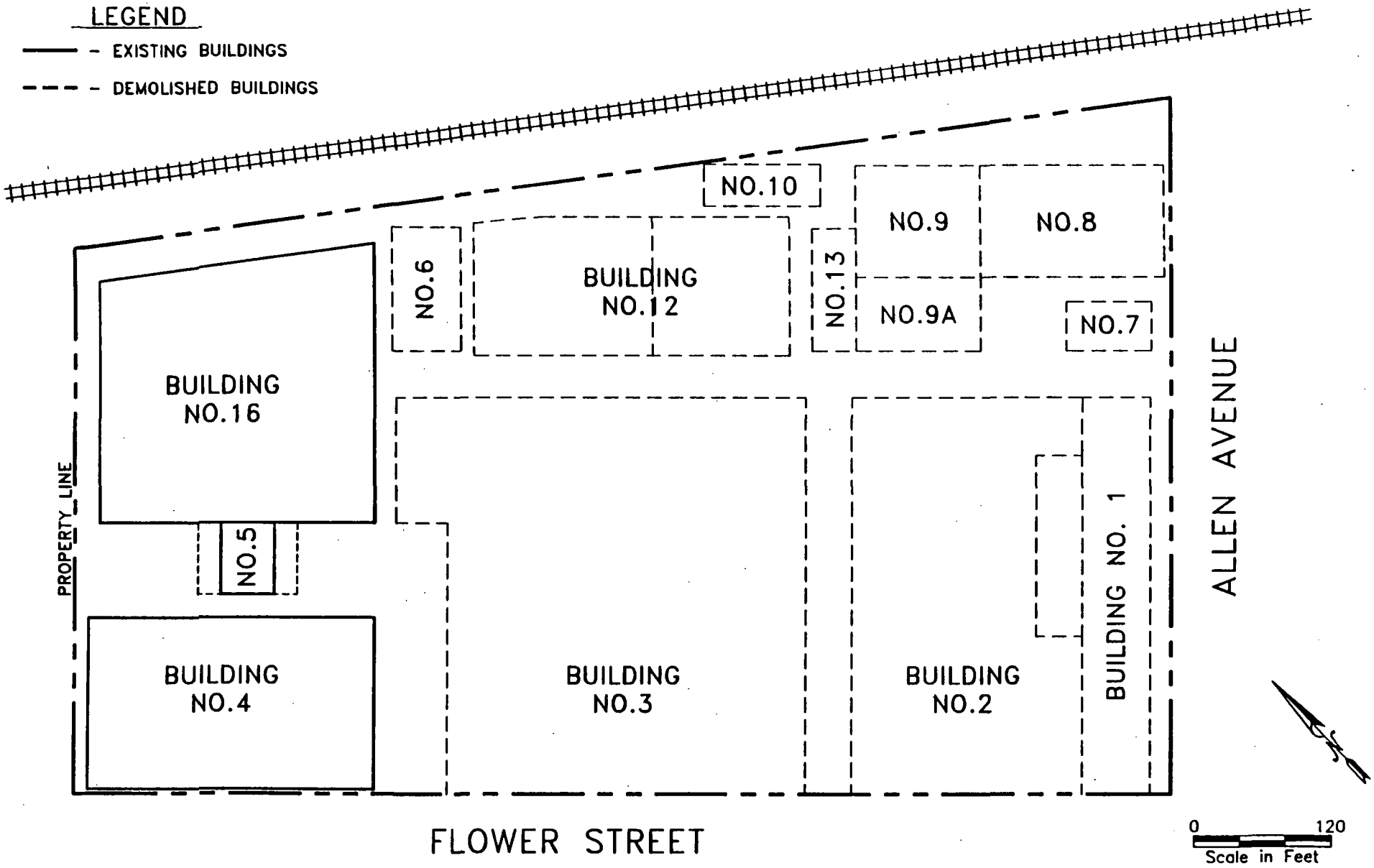
Drafter: J. CAMERANO Date: 9/20/93 Contract Number: 04-3484E Approved: Revised:

FILE: 04-3484E\3484EB01



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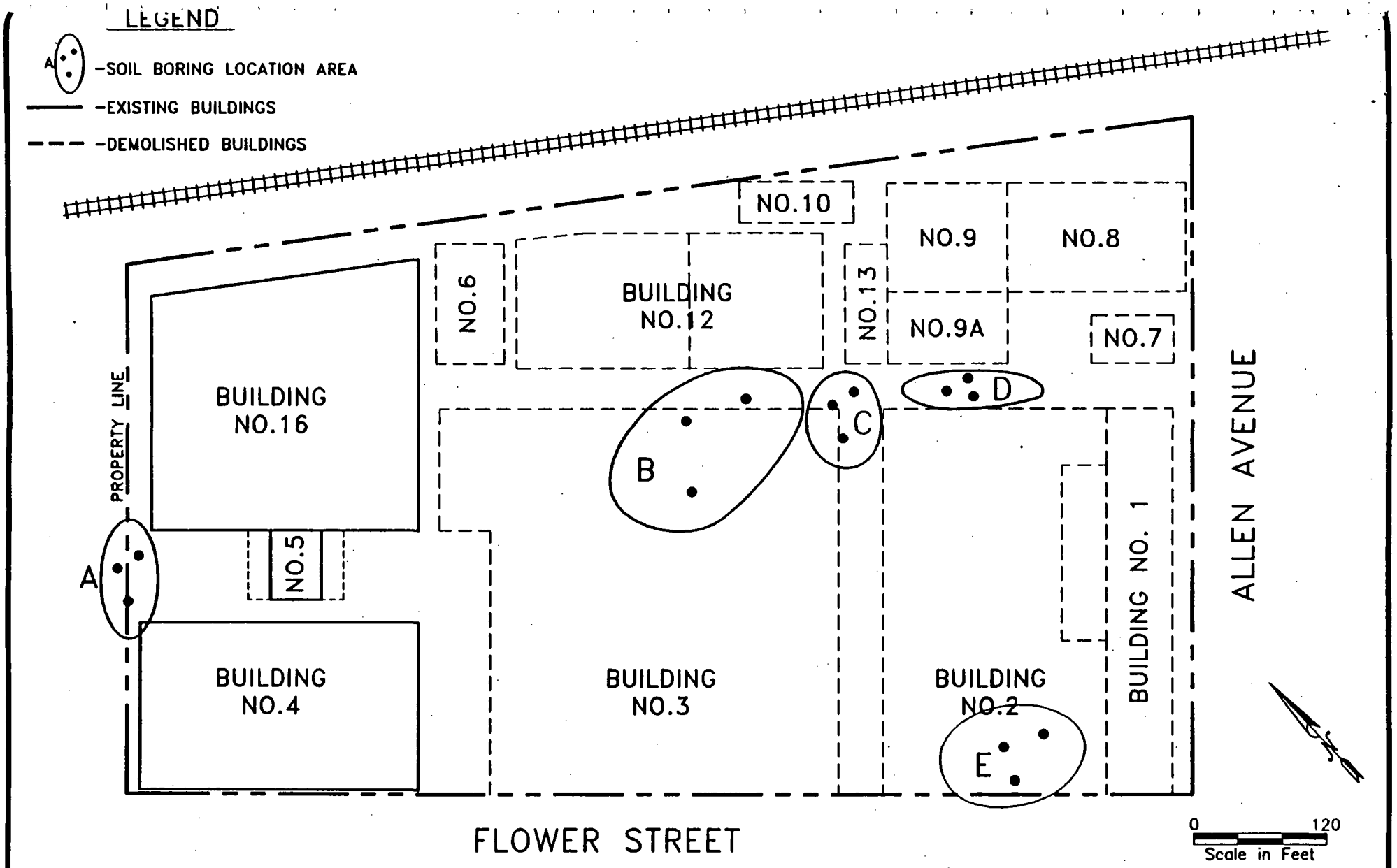
Site Layout

ITT Fluid Products Corporation
Burbank,California

Figure 2

Drafter: J. CAMERANO Date: 9/20/93 Contract Number: 04-3484E Approved: Revised:



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Soil Boring Location Map

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Figure 3

Drafter: J. CAMERANO Date: 9/20/93 Contract Number: 04-3484E Approved: Revised:

APPENDIX

REPORTS AND DOCUMENTS RELATED TO ITT BURBANK SITE INVESTIGATIONS ON FILE WITH THE LARWQCB

Document	Subject/Title	Date
A.L Burke (ALB)	Preliminary Site Investigation	August 1987
ALB	Preliminary Site Investigation Buildings 2,3, and 8 Final Report	August 21, 1987
ALB	Closure and Additional Site Investigation Cost Estimates	August 21, 1987
ALB	Draft Final Report on Phase 2 Investigation	November 6, 1987
ALB	Closures for Process Sumps in Buildings 2 & 3	November 10, 1987
ALB	Workplan & Estimates for Closure of Building 8	January 4, 1988
ALB	Closure of Sump in Building 5	February 1988
OccuHealth Consultants	Building 12 Mercury Removal	February 23, 1988
ALB	Finalized Closure Plan for Sump in Building 5	March 10, 1988
ALB	Investigation of Contamination	April 1988
ALB	Overview of Investigation and Closure Actions	April 1988
ITT	Application for Closure	May 30, 1988
ALB	Site Characterization and Closure Workplan Draft	July 1988
OccuHealth Consultants	Asbestos Removal in Buildings 3 & 12	August 4, 1988
ALB	Workplan for ITT Building 8	October 6, 1988
ALB	Investigation of Subsurface Contamination	September 16, 1988
ALB	Scope of Work, ITT Projects	September 16, 1988
ALB	Subsurface Investigation Draft	November 1988
ALB	ITT Building 8 Decontamination & Demolition Progress Report #1	December 13, 1988
ALB	Progress Report - Building 3	December 27, 1988
ALB	ITT Building 8 Decontamination & Demolition Progress Report	January 12, 1989
ALB	Progress Report for Building 3	January 30, 1989
ALB	Progress Update, Building 8, ITT	January 30, 1989
ALB	ITT Building & Decontamination & Demolition Progress Report #3	February 17, 1989

REPORTS AND DOCUMENTS RELATED TO ITT BURBANK SITE INVESTIGATIONS ON FILE WITH THE LARWQCB

Document	Subject/Title	Date
ALB	Progress Report #2, Building 3, Preliminary	March 1989
ALB	ITT Building 7 Decontamination & Demolition Progress Report #4	May 2, 1989
ALB	Remediation, ITT Building 8, Final In-House Draft Report	August 3, 1989
Weston	Site Characterization Report and Action Plan for ITT Facility	November 2, 1989
ESI	Workplan, Transformer Clean-Up	
Weston	Soil Gas Screening (Results) of the ITT Aerospace Controls, Burbank	March 27, 1990
Weston	Summary of Asbestos & Residue Sampling of Buildings 1, 2 & 3	March 28, 1990
Weston	Dust Control at Building 8	
Weston	Preliminary Work Plan for Soil & Ground Water Characterization	June 14, 1990
Weston	Preliminary Work Plan for Soils & Groundwater Contamination - Final revised from June 14, 1990 Draft	November 12, 1990
ICF KE	Results of Preliminary Groundwater & Soils Investigation	August 14, 1991
ICF KE	Work Plan for Building 8, ITT Facility	October 15, 1991
ICF KE	Fourth Quarter Sampling and Analysis Report, October - December 1991	January 1992
ICF KE	First Quarter Sampling and Analysis Report, January - March 1992	April 1992
IT Corporation	Health and Safety Plan for PCB Decontamination and Removal of Asbestos Containing Materials for the ITT Burbank Site	June 22, 1992 and July 6, 1992
ICF KE	Second Quarter Sampling and Analysis Report April - June 1992	July 1992
ICF KE	Building 8 PCB Sampling Program Report	August 1992
ICF KE	Third Quarter Progress Report July - September 1992	October 1992
ICF KE	Fourth Quarter Sampling and Analysis Report October - December 1992	January 1993

REPORTS AND DOCUMENTS RELATED TO ITT BURBANK SITE INVESTIGATIONS ON FILE WITH THE LARWQCB

Document	Subject/Title	Date
ICF KE	First Quarter Sampling and Analysis Report January - March 1993	April 1993
ICF KE	Supplemental Work Plan for Additional Work at the ITT Site	April 1993
ICF KE	Second Quarter Sampling and Analysis Report April - June 1993	July 1993